

REMARKS

The subject matter of former claims 2 and 6 has been combined into claim 1 and claims 2 and 6 have been canceled. The subject matter of former claims 1 and 13 has been combined into claim 13. The subject matter of former claims 17 and 18 has been combined and claim 18 has been canceled. Claims 23-28 have been canceled because the subject matter thereof was redundant or was in another claim. The dependencies of the remaining claims have been modified, as appropriate.

Claim 3 has been amended to indicate the liquid is sequentially applied to different areas on a pond in a toilet bowl three or more times as a spray immediately prior to making a bowel movement, a feature set forth on page 2, paragraphs 005 and 0013 of the application as filed. Claim 16 has been amended to indicate the liquid includes about 90% water by volume, a feature mentioned on page 3, line 2 of the application as filed.

Claims 29-34 are new dependent claims including features specified in other dependent claims as follows: claim 29 corresponds to claim 8, except that claim 29 depends on claim 3, instead of claim 7; claim 30 corresponds with claim 16, as amended, but claim 30 depends on claim 5, instead of claim 14; claim 31 corresponds with claim 3, but claim 31 depends on claim 20, instead of claim 1; claim 32 corresponds with claim 3, except that claim 32 depends on claim 13; claim 33 corresponds with claim 15, except claim 33 depends on claim 4, instead of claim 14; and claim 34 corresponds with claim 16, except claim 33 depends on claim of 4, instead of claim 14.

The foregoing amendments have obviated the rejection of claims 6-8, 17-22, 27 and 28 under 35 USC 112, second paragraph.

Claim 1, that now requires the liquid to be applied as a spray consisting essentially of droplets having a maximum surface area of about $78 \times 10^{-12} \text{ m}^2$, is not obvious as result of Kalman, Publication Number DE 19844864 A1. The office action incorrectly alleges it would have been well within the purview of one of ordinary skill any art to optimize the surface area of the material Kalman sprays into the toilet bowl, as well as the diameter of the droplets, in order to maximize the deodorization process. Kalman discloses a process wherein scented foam is sprayed onto the water surface of a toilet basin. The scented foam consists of a mixture of soapy water and a scented substance. Figures 1 and 2 and the description of the Kalman reference indicate Duftschaum (scented foam) 4 is in the form of large bubbles on the top surface of Wassers (water) 1 in the water closet (WC). A foam of soapy water and a scented substance would appear to have a surface area that is considerably in excess of $78 \times 10^{-12} \text{ m}^2$. Soapy water forms large bubbles, as indicated by reference numeral 4, in Figures 1 and 2 of Kalman. Hence, the foam Kalman sprays into the toilet bowl has a surface area that is a difference in kind from the droplets now specified in claim 1. Paragraph 004 of the application as filed indicates droplets having a surface area greater than about $78 \times 10^{-12} \text{ m}^2$ are not as effective as droplets having a surface area less than about $78 \times 10^{-12} \text{ m}^2$. Because the maximum area of the droplets set forth in applicants' claim 1 is obviously so different from the areas of the soapy water mixture

that forms the foam in the Kalman water closet, the holding of obviousness with regard to applicants' former claim 6 was incorrect.

The second full paragraph on page 4 of the office action alleges that all spray containers spray liquid spray droplets in a spherical shape due to the force of gravity. The examiner is requested to provide proof of this allegation. The shapes indicated by reference numeral 4 in Figures 1 and 2 of Kalman do not appear to be spherical.

Concerning the allegation in the office action that it would have been obvious to have sprayed multiple times to completely cover the entire surface of the water pond, the Kalman soapy water-scented substance foam would have a tendency to form large bubbles that spread across the surface of the water pond in the water closet without multiple applications. The scented material is relied on to cover up the odor of the ensuing elimination into the toilet bowl. It is doubtful that additional scented material would be necessary. The consumer is not likely to waste his/her money by using the Kalman soapy water scented substance foam unnecessarily.

Claim 13, that is now independent and includes the limitations formerly found in claim 1, is not rendered obvious by Kalman in view of Lin et al, US patent 5,863,882. Claim 13 indicates the liquid deodorant, that is applied to the toilet immediately prior to making a bowel movement, includes enzymes that dependent claim 14 indicates are amylase, protease and lipase. While Lin et al indicates the enzymes amylase, protease and lipase can be applied to a toilet bowl to degrade or promote the degradation of lipids, proteins and carbohydrates common in domestic sewage, the enzymes are, according to the Lin et al disclosure, apparently sprayed onto a surface of a domestic

toilet bowl. However, column 3, lines 12-18 indicates the formula is left on the surface or scraped against the surface with a brush for not less than 10 minutes, after which time the product is flushed or rinsed with water and discharged from the fixture.

The requirement for the enzyme of Lin et al to remain on the surface of the toilet for at least 10 minutes would lead one of ordinary skill in the art away from considering the Lin et al disclosure in combination with Kalman to make the subject matter of claim 13 obvious. Claim 13 requires the enzyme to be applied to the toilet immediately prior to making a bowel movement. Presumably, the examiner is interpreting Kalman in a similar manner. If so, one of ordinary skill in the art would not think of combining the disclosure in Lin et al with Kalman because of the 10 minute wait between application and use. If the examiner is interpreting Kalman in a manner such that the Kalman soapy water-scented foam is not applied immediately prior to a bowel movement being made, a vital aspect of applicants' claimed subject matter is not included in the primary reference. When one considers the overall disclosure of Lin et al and Kalman, rather than a snippet from Lin et al, Kalman would not be modified as result of Lin et al by one of ordinary skill in the art to arrive at the steps of claim 13 or 14.

Dependent claims 4 and 5 depend on claim 1 and include the limitations of claims 13 and 14, respectively. As such, claims 4 and 5 are allowable for the same reasons advanced with regard to claims 1, 13 and 14. In addition, the combination of the maximum spray droplet area of claim 1 and the enzyme requirements of claims 4 and 5 leads to a method that is far more effective than the Kalman method. Kalman merely attempts to mask the odor by using the soapy water-scented foam. In contrast,

it appears that the combination of elements set forth in claims 4 and 5 penetrates and breaks down the odor-generating skatol and indol in human feces, as well as proteins in human feces which are known to produce offensive odors; the defined surface area has been found to provide best results; see paragraph 004, second sentence and paragraphs 0016 and 0019 of the application as filed.

Dependent claims 17, 21 and 22, that depend on claim 13, include limitations similar to those of claims 4 and 5. Thus, claims 17, 21 and 22 are allowable for the reasons discussed in connection with claims 4 and 5.

Item 10, page 5 of the office action is not understood. This item is a rejection of claim 20 as being unpatentable over Kalman in view of Lin et al and further in view of Mallett et al. Claim 20 is concerned with spraying from a nozzle such that the spray has a conical pattern with an apex angle having a solid angle of about 40° at a spray-originating region. However, item 10 does not mention this limitation and relies on Mallett et al with regard to surfactants and emulsifiers. Clarification is in order.

If the examiner was relying on the combination of Kalman, Lin et al and Mallett et al in connection with claims 15 and 16, that respectively indicate the liquid of claim 14 includes emulsifiers, and nonylphenol, propylene glycol and about 90% water by volume, applicants note that Mallett et al is concerned with ingredients that act separately, with no reaction between the components; column 1, line 66-68. There is nothing in the record to indicate that this main objective of Mallett et al is achieved if the soapy water-scented foam composition of Kalman and the enzymes of Lin et al are combined with the Mallett et al composition.

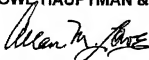
Items 11 and 12, on pages 6 and 7 of the office action, states claims 8 and 20 are respectively unpatentable as a result of Kalman and Wagner US patent, 4,872,225, and Kalman, Lin et al and Wagner. These claims require the spray to be sprayed from a nozzle such that the spray has a conical pattern with an apex having a solid angle of about 40° at a spray originating region. Wagner is concerned with a cleaning apparatus and method for bath enclosures. Spray head 31 includes side pipes 45 and 46, Figure 9, each having a series of plural discharge openings 51 arranged to direct a stream of water 52 at a selected downward angle to a horizontal designated A. The water flows through openings 51 at an angle of 40° relative to the horizontal A, as described in column 3, lines 9-15 and as illustrated in Figure 5. Nowhere does the relied upon portion of Wagner state the water flowing through openings 51 has a conical pattern with an apex having a solid angle of about 40° at a spray originating region. In fact, an inspection of Figure 5 indicates the apex angle of water stream 52 as it emerges from openings 51 is much less than 40° . Applicants found that the use of a spray having a conical pattern with an apex having a solid angle of about 40° at a spray originating region is advantageous in providing the proper coverage of the water pond in the toilet. This is particularly true when liquid is sequentially applied to different areas of the pond, as required by new claim 29. Based on the foregoing, the basis for the rejection of claims 8 and 20 and other similar claims is incorrect.

In view of the foregoing amendments and remarks, allowance is in order.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,

LOWE HAUPTMAN & BERNER, LLP



Allan M. Lowe
Registration No. 19,641

1700 Diagonal Road, Suite 300
Alexandria, Virginia 22314
(703) 684-1111
(703) 518-6499 Facsimile
Date: May 15, 2007
AML/cjf:tal